AMENDMENTS TO THE CLAIMS
PURSUANT TO REVISED 37 CFR § 1.21

The following is a listing of claims that replaces all prior versions, and listings, of claims in the application:

1-16. (Previously withdrawn)

17. (Currently amended) A method for detecting protein-protein interactions, said interactions requiring a post translational modification of one of the said proteins, said method comprising: (a) providing a host cell comprising a detectable gene wherein the detectable gene expresses a detectable protein when the detectable gene is activated by an amino acid sequence comprising ~~including~~ a transcriptional activation domain when the transcriptional activation domain is in sufficient proximity to the detectable gene; (b) providing a first chimeric gene that is capable of being expressed in the host cell, the first chimeric gene comprising a DNA sequence that encodes a first hybrid protein, the first hybrid protein comprising: (i) a DNA-binding moiety that recognizes a binding site on the detectable gene in the host cell, said DNA-binding moiety comprising the Gal4 DNA binding domain, hereinafter GDBD; (ii) a first test protein or fragment thereof, comprising a reactive moiety capable of being modified through catalysis, that is to be tested for interaction with at least one second test protein or fragment thereof, said reactive moiety comprising a histone amino terminal tail capable of being acetylated by Gcn5; and (iii) a catalytic moiety that is capable of catalyzing said first test protein, said catalytic moiety comprising the catalytic domain of Gcn5; (c) providing a second chimeric gene that is capable of being expressed in the host cell, the second chimeric gene comprising a DNA sequence that encodes a second hybrid protein, the second hybrid protein comprising: (i) the transcriptional activation domain; and (ii) a second test protein or fragment thereof that is to be tested for interaction with the first test protein or fragment thereof when said first test protein has been modified by the catalysis of said reactive moiety to create a modified first test protein; wherein interaction between the first modified test protein and the second test protein in the host cell causes the transcriptional activation domain to activate transcription of the detectable gene; (d)

introducing the first chimeric gene and the second chimeric gene into the host cell; (e) subjecting the host cell to conditions under which the first hybrid protein and the second hybrid protein are expressed in sufficient quantity for the detectable gene to be activated; and (f) determining whether the detectable gene has been expressed to a degree greater than expression in the absence of an interaction between the first test protein and the second test protein.

18. (Cancelled) ~~The method of claim 17, wherein said DNA-binding moiety comprises GDBD, said catalytic moiety comprises the catalytic domain of Gcn5 and, said reactive moiety comprises a histone amino terminal tail capable of being acetylated by Gcn5.~~

19. (Currently amended) The method of Claim 17, wherein said first test protein and said second test protein are encoded on a library of plasmids containing DNA inserts~~, derived~~ selected from the group consisting of genomic DNA, cDNA, and synthetically generated DNA.

20. (Currently amended) The method of claim 17, wherein said first test protein ~~are derived are derived~~ is selected from the group consisting of bacterial protein, viral protein, oncogene-encoded protein, fungal protein and plant protein.

21-23. (Previously withdrawn).

24. (Currently amended) A method for detecting protein-protein interactions, comprising: (a) providing a host cell comprising a detectable gene, wherein the detectable gene expresses a detectable protein when the detectable gene is activated by an amino acid sequence comprising a transcriptional activation domain; (b) providing a first chimeric gene that is capable of being expressed in said host cell, the first chimeric gene comprising a DNA sequence that encodes a first hybrid protein, the first hybrid protein comprising: (i) a DNA-binding moiety that recognizes a binding site on the detectable gene in the host cell, said DNA-binding moiety comprising the Gal4 DNA binding domain, hereinafter GDBD; (ii) a reactive moiety capable of being modified through catalysis, said reactive moiety comprising a histone amino terminal tail capable of being acetylated by Gcn5; and (iii) a catalytic moiety that is capable of catalyzing said reactive moiety, said catalytic moiety comprising the catalytic domain of Gcn5 ; (c) providing a second chimeric